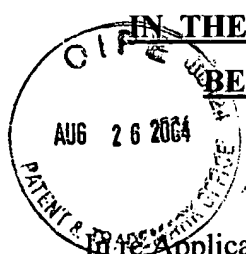


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES

Re Application of

Job Cornelis Oostveen et al.

RECORD CARRIER
PLAYBACK APPARATUS AND
INFORMATION SYSTEM
COMPRISING A RECORD
CARRIER AND PLAYBACK
APPARATUS

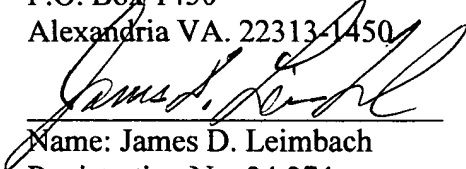
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Examiner: Jorge L. C. Ortiz

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Introduction

This Application is before the Honorable Board of Patent Appeals and Interferences, from a final decision of the Examiner as indicated in the Advisory Action dated June 3, 2004.

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 1-16 are the currently pending claims drawn to a record carrier and playback system for reading information marks on the record carrier. Claims 1-16 are set forth in the attached Appendix I, as the appealed claims.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 1-16 under 35 U.S.C. §102 and 35 U.S.C. §103. The Examiner in an advisory action (paper no. 12) indicated that the rejections based on 35 U.S.C. §102 and 35 U.S.C. §103 stand.

Summary Description of the Invention

The present invention relates to a record carrier and an associated playback apparatus that can read from the record carrier information marks within a track on the record carrier in the form of first variations indicative of the presence or absence of information marks. The record carrier and the associated playback apparatus of the invention employ second variations on the record carrier caused by variations associated with the information marks, with the phase of the second variations being coupled to the phase of the first variations (see page 2, lines 7-12). The second variations on the record carrier exhibit a modulation pattern representing a code which the playback apparatus can detect making detection of the second variations more reliable (see page 3, lines 13-19). The invention enhances copy protection by preventing recording on commercially available record carrier is that have a pregrooved substrate with a wobble (see page 4, line 29 through page 5 line 1). The invention teaches that the second variations will have either a first or second phase with respect the first variations providing the advantage that the second variations can be sampled in frequency of twice that of the second variations themselves (see page 7, lines 3-14). Additionally, the first and second phases of the second variations are selected such that a zero crossing of second variations coincides with a start of frame advantageously allowing for resynchronization of the clock used for detecting the second variations.

The problems to be solved by the invention are described in detail in the specification on pages 1-9. In a few words, the invention provides for more reliable detection of second variations which in turn increases the overall reliability of the playback apparatus. By recording first variations in the phase relationship related to second variations, the invention makes it more difficult to copy material on a record in apparatus.

Issues on Appeal

The issues presented for appeal are:

(1) whether claims 4-16 and 14-16 are anticipated under 35 U.S.C. §102 by Maeda et al. (U.S. Patent No. 6,069,870); and

(2) whether claims 1-3, 7 and 8-13 are patentable under 35 U.S.C. §103 over Timmermans et al (U.S. Patent No. 5,930,210) in view of Maeda et al. (U.S. Patent No. 6,069,870).

Grouping of the Claims

The claims do not stand and fall together.

Arguments

I. The rejection under 35 U.S.C. §102

A. The rejection under 35 U.S.C. §102

Claims 4-16 and 14-16 stand rejected under 35 U.S.C. §102 as being unpatentable U.S. Patent No. 6,069,870 issued to Maeda et al. (hereinafter referred to as Maeda et al.). The Examiner's position is that Maeda et al. anticipate the subject matter defined by appealed Claims 4-16 and 14-16.

B. The reference

Maeda et al. (U.S. Patent No. 6,069,870) disclose an information recording medium having groove tracks that are separated by land tracks. The opposing borders between the groove tracks and the land tracks as taught by Maeda et al. define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). Maeda et al. teach using the wobbling pattern defined by opposing borders of the land and groove tracks for address information. Maeda et al. teach that the address information indicates where the borders 14, 15 for the land and groove tracks are located on the optical disc 4 (see column 7, lines 32-42). The address information as defined by Maeda et al. is ascertained by forming the wobbling pattern such that a fixed number of periods of the wobbling waveforms coincide with a single bit of address information (see column 7, lines 32-42). The discussion related to Figure 3 of Maeda et

al. on column 7, line 32-column 8, line 35 illustrates the principal taught therein for using the wobbling waveforms for address information. As shown in Figure 3 of Maeda et al., the inner border 14 and the outer border 15 are always 90 degrees out of phase and maintain an orthogonal relationship. The embodiment discussed on column 7, line 32-column 8, line 35 of Maeda et al. employs five periods of the wobbling waveforms to define a single bit of address information. Note that the term "bit" as used within column 7, line 32-column 8, line 35 of Maeda et al. refers to an address bit that is determined by multiple periods of the wobbling waveforms and not an information bit.

The appellant respectfully point out that in the discussion of Figure 3 of Maeda et al. on column 7, line 32-column 8, line 8, the term "data" as used refers to data for address bits. For example, column 7, lines 32-36 states that the borders 14, 15 of tracks 270 are partitioned with each subdivision denotes as one bit and data "0" or data "1" are presented by the wobbling waveforms. On column 7, lines 43-45 Maeda et al. states that the wobbling waveform of data "0" is identical in oscillation period with the wobbling waveform of data "1". Further, the discussion related to Figure 3 of Maeda et al. on column 7, lines 59-64 discusses discontinuities that occur in the wobbling waveforms in the event that of the address bits change from a logical "0" to a logical "1" or vice versa. In the discussion of Figure 3 of Maeda et al. on column 7, line 65- column 8, line 8, the term data is used in discussing address data derived from by the wobbling waveforms. The discussion of Figure 3 of Maeda et al. on column 7, line 32-column 8, line 8, discuss phase relationships that exist between opposing walls of the wobbling waveform.

On column 8, lines 13-21 Maeda et al. state that it is possible to read different address information from opposing wobbling borders 14, 15 simultaneously with data from the information marks. Note that there is no discussion, teaching or any motivation provided whatsoever within Maeda et al. for relating the phase relationship of either wobbling of the opposing wobbling walls with the phase of the information that is recorded within the tracks.

In summary, while Maeda et al. provide advantages for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability, Maeda et al. provide no teaching or suggestion for varying the phase relationship of the wobbling pattern with respect to the phase relationship for information that is recorded within the tracks on the record carrier.

C. The differences between the invention and the references

Maeda et al. do disclose, suggest or otherwise motivate a person skilled in the art to couple the phase of the second variations formed by the wobbling waveform of the opposing walls to the track to the phase of the first variations formed by data recorded within the tracks. "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). Column 6, lines 56-62, Maeda et al. disclose information marks representative of data that is formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. Further, column 6, lines 56-62, Maeda et al. disclose that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no discussion within column 6, lines 56-62, Maeda et al. for coupling the phase of the address information that is formed along track 270 by the wobbling waveforms formed by the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270.

Appealed claim 4, defines subject matter for first variations caused by existence and nonexistence of the information marks along the track, and second variations caused by variations associated with the information marks with the phase of the second variations being coupled to the phase of the first variations. The subject matter defined by appealed claim 4 is discussed beginning at page 5, line 32 of the specification to the present invention proceeding through page 6, line 24 as a predetermined number of second variation corresponding to a predetermined number of channels bits represented by the first variations. The examiner's position expressed in the Advisory Action (paper 12) is that Maeda et al. on column 8, lines 18-19 disclose that a predetermined number of wobbles correspond to a predetermined number of channel bits. The appellants respectfully point out that column 8, lines 18-19 of Maeda et al. disclose that is possible to read address information discerned from the wobbling patterns simultaneously with the data represented by the information marks 274. There is no disclosure, or suggestion, within Maeda et al. for coupling the phase of the second variations represented by the wobbling waveforms formed by the borders of tracks 270 to the phase of the first variations represented by the information marks 274 that are formed within the tracks 270. Figure 27 of Maeda et al. illustrates the equivalent of the first variations represented by the information marks

274 formed in land and groove tracks 270, 271, 272, 273. There is no phase relationship that can be discerned from between the first variations represented by the information marks 274 and the wobbling waveforms formed by land and groove tracks 270, 271, 272, 273 within Figure 27 of Maeda et al., or the discussion related thereto.

Appealed claim 5, defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that the second variations have either a first or a second phase with respect to the first variations. The subject matter defined by appealed claim 5 is discussed on page 7, lines 3-14 of the specification to the present invention. Figure 3 of Maeda et al. illustrates five wobbling waveform periods that correspond to a single address bit with no teaching or motivation being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track. The appellant respectfully points out that in Figure 27 of Maeda et al., the first variations represented by the information marks 274 do not correspond to a first or a second phase in the second variations defined by the wobbling waveforms of land and groove tracks 270, 271, 272, 273. In fact the placement of information marks 274 appears to random with respect to the phase of wobbling waveforms of land and groove tracks 270, 271, 272, 273.

Appealed claim 6, defines subject matter for a record carrier as defined by appealed claim 5, further characterized in that first and the second phase differ with 180 degrees. As discussed above, the placement of information marks 274 within Figure 27 of Maeda et al. do not correspond to a first or a second phase in the second variations and appear to be random with respect to the phase of the second variations. Figure 3 of Maeda et al. illustrates five wobbling waveform periods that correspond to a single address bit with no teaching or motivation being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track. The examiner's position expressed in the Advisory Action (paper 12) states that Maeda et al. on column 7, lines 42-46 disclose that the second variations have a first or second phase with respect to the first variations and that the first and second phase differ by 180°. The appellants respectfully point out that column 7, lines 42-46 of Maeda et al. disclose that phase of the wobbling waveforms formed by the opposing walls to the tracks are out of phase by 180°. There is no disclosure or suggestion within Maeda et al. for the second variations to have a first or second phase that differ by 180 degrees with respect to the phase of the first variations represented.

Appealed claim 14 defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. Figure 3 of Maeda et al. illustrates five wobbling waveform periods that correspond to a single address bit with no teaching or motivation being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track as discussed by Maeda et al. at column 8, lines 33-35. Note that in the Final Office Action, the examiner has taken the position that column 7, line 22-column 8, line 35 of Maeda et al. disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that column 7, line 22-column 8, line 35 of Maeda et al. do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

Appealed claim 15 defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that the second variations have a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The examiner's position stated in the Advisory Action (paper 12) is that Figure 2 of Maeda et al. disclose that the first or second phase correspond to a start of frame. The appellant's respectfully, point out the Figure 2 of Maeda et al. do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. The examiner's position stated in the Final Office Action states that Figures 3 and 27 as well as the discussion related thereto on column 7, line 22- column 8, line 35 of Maeda et al. disclose the subject matter defined by appealed claim 15 for the second variations having a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The appellant's respectfully, point out that neither Figures 3 and 27 nor column 7, line 22- column 8, line 35 of Maeda et al. disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 16 defines subject matter for a record carrier as defined by appealed claim 15, further characterized in that the predetermined relationship between the first and the

second phase coincides is a zero crossing. The subject matter defined by appealed claim 16 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position states in the Final Office Action is that Figure 3 and 27 as well as column 7, line 22- column 8, line 35 of Maeda et al. disclose the subject matter defined by appealed claim 16. The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of Maeda et al. for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing.

II. The rejection under 35 U.S.C. §103

A. The rejection under 35 U.S.C. S 103

Claims 1-3, 7 and 8-13 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,930,210 issued to Timmermans et al. (hereinafter referred to as Timmermans et al.) in view of previously discussed Maeda et al. (U.S. Patent No. 6,069,870). The Examiner's position is that it would have been within the scope of one of ordinary skill in the art to modify the teaching of Timmermans et al. to couple the phase of the second variations in the wobbling waveforms to the phase of first variations representative of the information recorded within the tracks in view of the teaching of Maeda et al.

B. The references

Timmermans et al. (U.S. Patent No. 5,930,210) disclose a playback system including a record carrier having first variations indicative of information recorded on the record carrier and second variations that differ from the first variations (see ABSTRACT). The information represented by the first variations can only be recovered if the second variations are detected (see column 3, line 57 - column, line 12). As noted by the examiner in the Final Office Action, Timmermans et al. do not teach the phase of the second variations is coupled to the phase of the first variations. Accordingly, while Timmermans et al. teach that second variations that are

transverse to the track direction, or track wobble, there is no coupling taught therein between the phase of the first variation with that of the phase of the second variations.

Maeda et al. (U.S. Patent No. 6,069,870), as discussed above regarding the rejection under 35 U.S.C. § 102, disclose an information recording medium having groove tracks that are separated by land tracks. The opposing borders between the groove tracks and the land tracks as taught by Maeda et al. define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). Column 6, lines 56-62, Maeda et al. disclose information marks representative of data that is formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. Further, column 6, lines 56-62, Maeda et al. disclose that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no discussion within column 6, lines 56-62, Maeda et al. for coupling the phase of the address information that is formed along track 270 by the wobbling waveforms formed by the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270.

In summary, while Maeda et al. provide for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability, Maeda et al. provide no teaching or suggestion for varying the phase relationship of the wobbling pattern with respect to the phase relationship for information that is recorded within the tracks on the record carrier.

C. The differences between the invention and the references

Timmermans et al. disclose a playback system including a record carrier having first variations indicative of information recorded on the record carrier and second variations that differ from the first variations. As noted by the examiner in the Final Office Action (page 6), Timmermans et al. do not teach the phase of the second variations is coupled to the phase of the first variations. Accordingly, while Timmermans et al. teach that second variations that are transverse to the track direction, or track wobble, there is no coupling taught therein between the phase of the first variation with that of the phase of the second variations as defined by the appealed claims.

Maeda et al. teach using the wobbling pattern defined by opposing borders of the land and groove tracks for address information. Maeda et al. teach that the address information indicates where the borders 14, 15 for the land and groove tracks are located on the optical disc 4 (see column 7, lines 32-42). The address information as defined by Maeda et al. is ascertained by forming the wobbling pattern such that a fixed number of periods of the wobbling waveforms coincide with a single bit of address information (see column 7, lines 32-42). The discussion related to Figure 3 of Maeda et al. on column 7, line 32-column 8, line 35 illustrates the principal taught therein for using the wobbling waveforms for address information. As shown in Figure 3 of Maeda et al., the inner border 14 and the outer border 15 are always 90 degrees out of phase and maintain an orthogonal relationship. The embodiment discussed on column 7, line 32-column 8, line 35 of Maeda et al. employs five periods of the wobbling waveforms to define a single bit of address information. Note that the term "bit" as used within column 7, line 32-column 8, line 35 of Maeda et al. refers to an address bit that is determined by multiple periods of the wobbling waveforms and not an information bit.

On column 8, lines 13-21 Maeda et al. state that it is possible to read different address information from opposing wobbling borders 14, 15 simultaneously with data from the information marks. Note that there is no discussion, teaching or any motivation provided whatsoever within Maeda et al. for relating the phase relationship of either wobbling of the opposing wobbling walls with the phase of the information that is recorded within the tracks.

In summary, Maeda et al. provide advantages for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability. Maeda et al. do not provide any teaching or suggestion for varying the phase relationship of the wobbling pattern with respect to the phase relationship for information that is recorded within the tracks on the record carrier as defined by the appealed claims.

The court stated in *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) that although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). Since Timmermans et al. do not teach the phase of the second variations is coupled to the phase of the first variations, and there is no motivation provided within Maeda

et al. to modify the teachings of Timmermans et al. to arrive at the invention as defined by the appealed claims., the rejection of the appealed claims should be overturned.

Appealed claim 1 defines subject matter for an information system having a record carrier having information marks along a track and exhibiting first variations caused by existence and nonexistence of the information marks along the track, and second variations caused by variations associated with the information marks; wherein the phase of the second variations being coupled to the phase of the first variations. The examiner's position expressed in the Final Office Action is that column 6, lines 56-62, Maeda et al. disclose that the phase of the second variations is coupled to the phase of the first variations. The appellants, respectfully, assert that column 6, lines 56-62, Maeda et al. disclose that information marks are formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. There is no discussion within column 6, lines 56-62, Maeda et al. that would lead a person skilled in the art to couple the phase of the address information that is formed along track 270 by wobbling waveforms of the borders of tracks 270 to the phase of the information marks 274 that are formed within the tracks 270. Simply put, there is not a single mention within Maeda et al. for coupling the phase of the second variations represented by the wobbling waveforms to the phase of the first variations represented by the information marks. Moreover, there is no motivation to modify the teachings of either Maeda et al. or Timmermans et al. to create an information system with a record carrier having the phase of the second variations being coupled to the phase of the first variations as defined by appealed claim 1.

Appealed claim 2 defines subject matter for an information system having a record carrier as defined by appealed claim 1 further characterized in that the second variations exhibit a modulation pattern representing a code, a detection unit includes a demodulation unit for recovering the code on the basis of at least one signal, and an activation unit for activating the enabling unit when the code is recovered. The examiner's position is that Timmermans et al. defined by appeal claim 2. The appellants would draw attention to page 7, lines 3-14 of the specification to the present invention wherein the binary code that the second variations as defined by appealed claim 2 are discussed. The modulation pattern exhibited by the second variations as defined by appeals claims 2 are inherently different from those of Timmermans et al. due to the fact that appealed claim 2 defines subject matter wherein the second variation have a phase coupled to the phase of the first variations.

Appealed claim 3 defines subject matter for the system as defined by appealed claim 2, further characterized in that the information signal is recoverable by means of a predetermined type of data processing, the code indicating the predetermined type of data processing to be used for recovering the information signal, and the playback apparatus further includes a unit for setting said recovery unit in a mode in which the predetermined type of data processing is performed when the information signal is recovered. The appellants respectfully submit that the definition of the phase of the second variations being coupled to the phase of the first variations alters the inherent meaning for the information signal being recoverable by means of a predetermined type of data processing, in a manner necessary to accommodate the definition of the phase of the second variations being coupled to the phase of the first variations. Therefore, Timmermans et al. do not disclose or suggest the predetermined type of data processing, the code indicating the predetermined type of data processing to be used for recovering the information signal as defined by appealed claim 3.

Appealed claim 7 defines subject matter of a playback apparatus for scanning a record carrier with a transducer unit being adapted to detect first and second variations, the first variations representing an information signal recorded on the record carrier, and the second variations caused by variations associated with the information marks; wherein the phase of the second variations being coupled to the phase of the first variations. The examiner's position is that column 6, lines 56-62 of Maeda et al. teach the subject matter defined by appealed claim 7. Column 6, lines 56-62, Maeda et al. disclose information marks representative of data that is formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. Further, column 6, lines 56-62, Maeda et al. disclose that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no discussion within column 6, lines 56-62, Maeda et al. for coupling the phase of the address information that is formed along track 270 by the wobbling waveforms formed by the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270. The opposing borders between the groove tracks and the land tracks as taught by Maeda et al. define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). The subject matter defined by appealed claim 7 is discussed in the specification to the present invention on pages 5-9. There is no discussion within column 6, lines 56-62, Maeda et al. that would lead a person skilled in the art to couple the phase of the address information that is formed along track 270 by

wobbling waveforms of the borders of tracks 270 to the phase of the information marks 274 that are formed within the tracks 270. Simply put, there is not a single mention within Maeda et al. for coupling the phase of the second variations represented by the wobbling waveforms to the phase of the first variations represented by the information marks. Moreover, there is no motivation to modify the teachings of either Maeda et al. or Timmermans et al. to create a playback apparatus with a record carrier having the phase of the second variations being coupled to the phase of the first variations as defined by appealed claim 7.

Appealed claim 8 defines the subject matter according to appealed claim 7, further characterized in that the predetermined variation pattern allows sampling of the second variations at twice the frequency of the second variations. Figures 3 and 27 of Maeda et al. illustrates five wobbling waveform periods that correspond to a single address bit with no teaching or motivation being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track as discussed by Maeda et al. at column 8, lines 33-35. Note that in the Final Office Action, the examiner has take the position that column 7, line 22-column 8, line 35 of Maeda et al. disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that column 7, line 22-column 8, line 35 of Maeda et al. do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

Appealed claim 9 defines the subject matter of appealed claim 7, further characterized in that the second variation has a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The examiner's position is that Figures 3 and 27 as well as column 7, line 22 – column 8, line 35 of Maeda et al. disclose that the first or second phase correspond to a start of frame. The appellant's respectfully, point out the Figures 3 and 27 of Maeda et al. do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. The appellant's respectfully, point out that neither Figures 3 and 27 nor column 7, line 22- column 8, line 35 of Maeda et al. disclose, suggest or mention in any way whatsoever that the second

variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 10 defines subject matter for a playback apparatus according to appealed claim 9, further characterized in that the predetermined relationship is a zero crossing. The subject matter defined by appealed claim 10 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position states in the Final Office Action is that Figure 3 and 27 as well as column 7, line 22- column 8, line 35 of Maeda et al. disclose the subject matter defined by appealed claim 10. The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of Maeda et al. for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing.

Appealed claim 11 defines the subject matter defined by appealed claim 1, further characterized in that a predetermined variation pattern within the second variation allows sampling of the second variations at twice the frequency of said second variations. Figures 3 and 27 of Maeda et al. illustrates five wobbling waveform periods that correspond to a single address bit with no teaching or motivation being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track as discussed by Maeda et al. at column 8, lines 33-35. Note that in the Final Office Action, the examiner has take the position that column 7, line 22-column 8, line 35 of Maeda et al. disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that column 7, line 22-column 8, line 35 of Maeda et al. do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

Appealed claim 12 defines the subject matter for the system of appealed claim 1, further characterized in that the second variations have a first and a second phase such that a predetermined relationship between the first and said second phase coincides to a start of frame. The examiner's position is that Figures 3 and 27 as well as column 7, line 22 – column 8, line 35 of Maeda et al. disclose that the first or second phase correspond to a start of frame. The appellant's respectfully, point out the Figures 3 and 27 of Maeda et al. do not disclose, suggest or

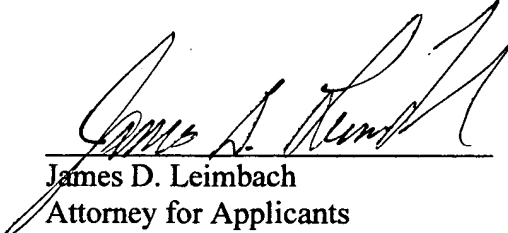
mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. The appellant's respectfully, point out that neither Figures 3 and 27 nor column 7, line 22- column 8, line 35 of Maeda et al disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 13 defines subject matter for a system as defines by appealed claim 12, further characterized in that predetermined relationship is a zero crossing. The subject matter defined by appealed claim 13 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position states in the Final Office Action is that Figure 3 and 27 as well as column 7, line 22- column 8, line 35 of Maeda et al. disclose the subject matter defined by appealed claim 13. The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of Maeda et al. for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing.

D. Conclusion

In summary, the Examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 1-16 should be reversed.

Respectfully submitted,



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APPENDIX 1 Claims on Appeal

1. An information system, comprising: a record carrier (1) having information marks along a track (11) thereof and exhibiting:

first variations caused by existence and nonexistence of the information marks along the track, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations,

a playback apparatus (20) including:

a transducer unit (20A, 20e, 20c) for scanning said record carrier (1), said transducer unit being adapted to detect said first variations and said second variations,

a first recovery unit (22) coupled to the transducer unit (20A, 20s, 20c) for recovering a clock signal (CL) from the first variations,

a second recovery unit (23) coupled to the transducer unit (20A, 20B, 20C) for recovering an information signal (S_{out}) from the first variations,

a detection unit (24) for detecting whether said second variations exhibit a predetermined variation pattern on the basis of at least one signal (S_A), which is at least indicative of said second variations, originating from said transducer unit, the detection unit (24) using the said clock signal (CL) for detecting, and

an enabling unit (5) for enabling said second recovery unit (23) to recover the 20 information signal (S_{out}) when said detection unit detects (24) said predetermined variation pattern.

2. The system as claimed in claim 1, wherein said second variations exhibit a modulation pattern representing a code; and said detection unit includes a demodulation unit for recovering said code on the basis of said at least one signal, and an activation unit for activating said enabling unit when said code is recovered.

3. The system as claimed in claim 2, wherein the information signal recorded on said record carrier is of a type which is recoverable by means of a predetermined type of data

processing, said code indicating the predetermined type of data processing to be used for recovering the information signal, and said playback apparatus further includes a unit for setting said recovery unit in a mode in which the predetermined type of data processing is performed when the information signal is recovered.

4. A record carrier (1) having information marks along a track (11) thereof and exhibiting:

first variations caused by existence and nonexistence of the information marks along the track, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations.

5. A record carrier according to claim 4, characterized in that the second variations have either a first or a second phase with respect to the first variations.

6. A record carrier according to claim 5, characterized in that first and the second phase differ with 180 degrees.

7. A playback apparatus (20) including:

a transducer unit (20_A, 20_B, 20_C) for scanning a record carrier (1), said transducer unit being adapted to detect at least first and second variations, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations,

a first recovery unit (22) coupled to the transducer unit (20_A, 20_s, 20_c) for recovering a clock signal (CL) from the first variations,

a second recovery unit (23) coupled to the transducer unit (20_A, 20_s, 20_c) for recovering an information signal (S_{out}) from the first variations,

a detection unit (24) for detecting whether said second variations exhibit a predetermined variation pattern on the basis of at least one signal (S_A), which is at least indicative of said second

variations, originating from said transducer unit, the detection unit (24) using the said clock signal (CL) for detecting and

an enabling unit (5) for enabling said second recovery unit (23) to recover the information signal (Sout) when said detection unit detects (24) said predetermined variation pattern.

8. A playback apparatus according to claim 7, characterized in that said predetermined variation pattern allows sampling of said second variations at twice the frequency of said second variations.

9. A playback apparatus according to claim 7, characterized in that said second variation have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

10. A playback apparatus according to claim 9, characterized in that said predetermined relationship is a zero crossing.

11. A system as claimed in claim 1, characterized in that a predetermined variation pattern within said second variation allows sampling of said second variations at twice the frequency of said second variations.

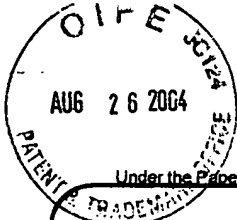
12. A system as claimed in claim 1, characterized in that said second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

13. A system as claimed in claim 12, characterized in that predetermined relationship is a zero crossing.

14. A record carrier according to claim 4, characterized in that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

15. A record carrier according to claim 4, characterized in that said second variation have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

16. A record carrier according to claim 15, characterized in that said predetermined relationship is a zero crossing.



PTO/SB/21 (02-04)

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**TRANSMITTAL
FORM**

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/897,331
	Filing Date	07/02/2001
	First Named Inventor	Job Cornelis Oostvenn
	Art Unit	2697
Examiner Name	Jorge L. Ortiz	
Total Number of Pages in This Submission	24	Attorney Docket Number NL000409

ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please Identify below):
Remarks Enclosed is an Appeal Brief and the required fee.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	James D. Leimbach, Reg. No. 34,374
Signature	
Date	August 23, 2004

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 330.00)

Complete if Known

Application Number	09/897,331
Filing Date	07/02/2001
First Named Inventor	Job Cornelis Oostvenn
Examiner Name	Jorge L. Ortiz
Art Unit	2697
Attorney Docket No.	NL000409

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

 Deposit
Account
Number
Deposit
Account
Name

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments
☐ Charge any additional fee(s) or any underpayment of fee(s)
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1) (\$)			

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity / Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	330.00
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 330.00)

SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	James D. Leimbach	Registration No. (Attorney/Agent)	34,374	Telephone	585 381 9983
Signature		Date	August 23, 2004		

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